Aero Design Ltd.

Work Order Control Sheet

Work Order#: 2015-34 **Date Opened:** 20-Feb-15 **Title:** Assembly

Aircraft OEM: Bell **Aircraft Model:** 206B/206L/407 **Product Type:** Cyclic Friction **Product Model:** All **Quantity:** 10-210/5-241

Work Order Contents

	Initial or N/A
Work Order/Build Sheets (Procedures Provided)	N/A
Additional Work Sheets (Standard Practice)	N/A
Drawings (See List Below)	JR
Parts Distribution Sheet	JR
Sub Component Tags	N/A
Completed Certification	JR
Time Sheet (R&D)	N/A
Notes	N/A

Build Sheet Contents

	Initial or N/A
Tasks Initialled	N/A
Dual Inspections Initialled	N/A

Drawing List

Drawing #	Rev #	Description	Initial or N/A
95210	0	Cyclic Friction Assy	JR
95240	0	Cyclic Friction Assy	JR

Component Completion

	As Instructed
Quantity Complete on This Work Order	10/5
Quantity Incomplete on This Work Order	N/A
Further Processing Required Before Release	N/A
Release to Stock as Components	JR

Certification

	Initial or N/A
Form One Completed	JR
Serviceable (Green) Tag Completed	N/A
In Process (Yellow) Tag Completed	N/A
Unserviceable (Red) Tag Completed	N/A
Parts Placed in Stores for Distribution	N/A

Additional Documentation

	Initial or N/A
Documentation of a minor change	N/A
Non-Conformance Report Required	N/A
Service Difficulty Report Required	N/A

Billing

	Initial or N/A
Local (Aero Design)	JR
Research and Development	N/A
Third Party	N/A

Traveller

Initial or N/A

Work performed by: Print: Jason Rekve Sign: Jason Rekve SCA: AD01 Date: 10-Apr-15

ICC / Dual Inspection preformed by: Print: Jeff Clarke Sign: Jeff Clarke SCA: AD02 Date: 10-Apr-15

Work Order closed by: Print: Jason Rekve Sign: Jason Rekve SCA: AD01 Date: 01-May-15

Aero Design Ltd.
9888 A Malaspina Rd. Powell River, BC, V8A 0G3
Phone: 604-483-2376 Fax: 604-483-2372 E-mail: info@aerodesign.ca

AMF 73-04

In Process

Remarks

HANDLE + BARREL NUT PREVIOUSLY REMOVED.

1 x RE-ASSEMBLED W/ ORIGINAL ~~HANDLE~~ HANDLE 24 JAN/2018
BARREL NUT WO ~~2016-167~~ 2017-167 DK.

1 x re-assemble w/ barrel nut from wo # 2017-167
handle from PO# 13052 dk 12 Mar 19

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AMF 73-04

Nomenclature: CYCLIC FRICTION (EARLY S/N) No. of pieces: 2

Manufacturer: AERO DESIGN LTD.

Part No.: _____ Serial/Batch No.: NSN

TTSN: N/A TSO: N/A Rem.: N/A

Work Order No.: 2015-34

Remaining Tasks to be Performed: INSTALL HANDLE W/ BARREL NUT

Signature: _____

Date: 31 AUG 2017 Lic. No. / SCA AD02

In Process

1. Approving Civil Aviation Authority/Country	2. AUTHORIZED RELEASE CERTIFICATE FORM ONE	3.Form Tracking No.
Transport Canada		

4. Organization Name and Address	5. Work Order/Contract/Invoice
Aero Design Ltd. – 9888A Malaspina Rd., Powell River, BC, V8A 0G3	WO 2015-34

6. Item	7. Description	8. Part Number	9. Qty.	10. Serial/Batch No.	11. Status/Work
	Cyclic Friction Ass'y	95210-01	10	N/A	New

12. Remarks

13a. Certifies that the items identified above were manufactured in conformity to:

☒ Approved design data and are in condition for safe operation.

☐ Non approved design data specified in block 12.

14a. ☐ CAR 571.10 Maintenance Release

☐ Other regulation specified in block 12

Certifies that unless otherwise specified in block 12, the work identified in block 11 and described in block 12, has been performed in compliance with the *Canadian Aviation Regulations*.

13b. Signature	13c. Approved Organization Number	14b. Signature	14c. Approved Organization Number
	AMF 73-04		
13d. Name	**13e. Date (dd/mmm/yyyy)**	**14d. Name**	**14e. Date (dd/mmm/yyyy)**
Jason Rekve - AD01	10 Apr 2015		

Installer Responsibilities

This certificate does not constitute authority to install.

Installers working in accordance with the national regulations of a country other than that specified in block 1 must ensure that their regulations recognize certifications from the country specified.

Statements in blocks 13a or 14a do not constitute installation certification. In all cases, the technical record for the aircraft must contain an installation certification issued in accordance with the applicable national regulations before the aircraft may be flown.

1. Approving Civil Aviation Authority/Country	2. AUTHORIZED RELEASE CERTIFICATE FORM ONE	3.Form Tracking No.
Transport Canada		

4. Organization Name and Address	5. Work Order/Contract/Invoice
Aero Design Ltd. – 9888A Malaspina Rd., Powell River, BC, V8A 0G3	WO 2015-34

6. Item	7. Description	8. Part Number	9. Qty.	10. Serial/Batch No.	11. Status/Work
	Cyclic Friction Ass'y	95240-01	5	N/A	New

12. Remarks

S/N 254-1657 configuration

13a. Certifies that the items identified above were manufactured in conformity to:

☒ Approved design data and are in condition for safe operation.

☐ Non approved design data specified in block 12.

14a. ☐ CAR 571.10 Maintenance Release

☐ Other regulation specified in block 12

Certifies that unless otherwise specified in block 12, the work identified in block 11 and described in block 12, has been performed in compliance with the *Canadian Aviation Regulations*.

13b. Signature	13c. Approved Organization Number	14b. Signature	14c. Approved Organization Number
	AMF 73-04		
13d. Name	**13e. Date (dd/mmm/yyyy)**	**14d. Name**	**14e. Date (dd/mmm/yyyy)**
Jason Rekve - AD01	10 Apr 2015		

Installer Responsibilities

This certificate does not constitute authority to install.

Installers working in accordance with the national regulations of a country other than that specified in block 1 must ensure that their regulations recognize certifications from the country specified.

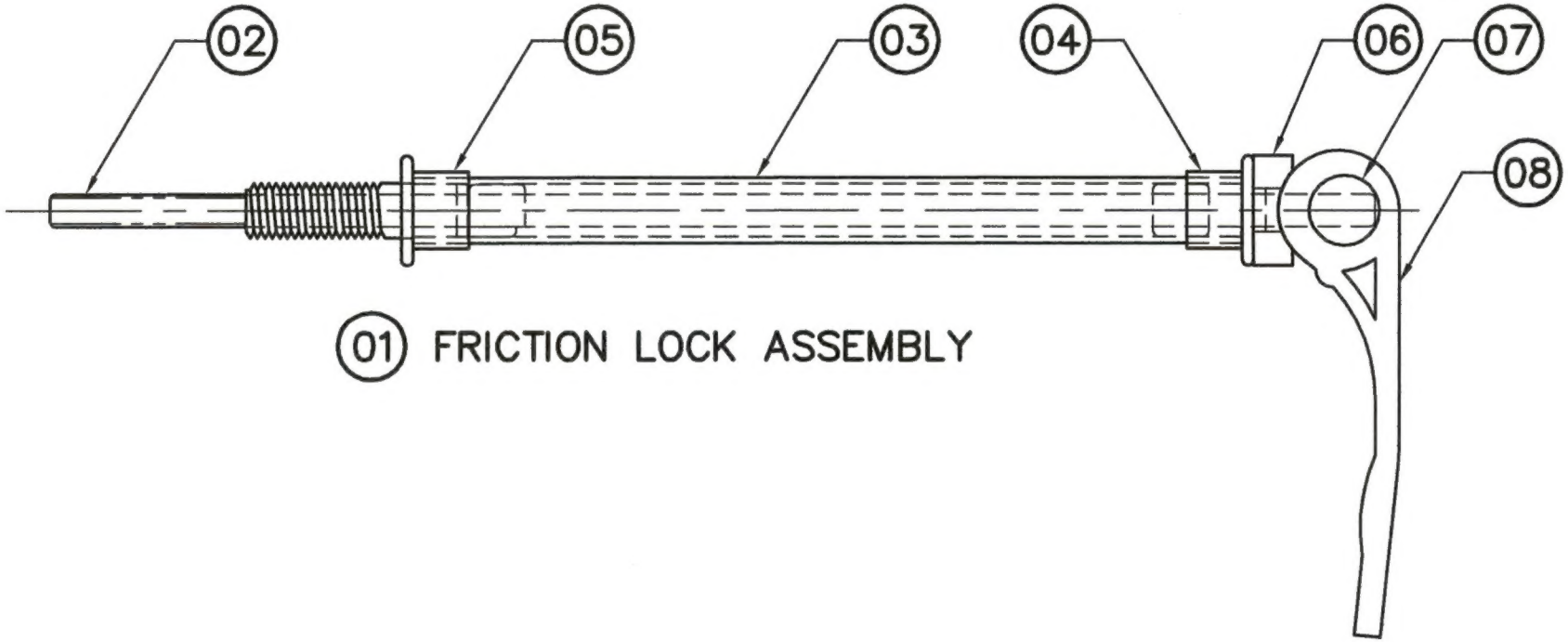
Statements in blocks 13a or 14a do not constitute installation certification. In all cases, the technical record for the aircraft must contain an installation certification issued in accordance with the applicable national regulations before the aircraft may be flown.

REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE		

NOTES

1. PRESS CAP (05) ONTO TUBE ASSEMBLY (03), INSERT THREADED ROD ASSEMBLY (02) INTO TUBE, THEN PRESS CAP (04) ONTO TUBE ASSEMBLY.

2. SLIDE CURVED WASHER (06) OVER THREADED ROD, INSERT BARREL NUT (07) INTO CAM LEVER (08), THEN THREAD CAM LEVER ONTO THREADED ROD. DO NOT TIGHTEN.



(01) FRICTION LOCK ASSEMBLY

QTY	PART NO.	ITEM	DESCRIPTION
01			LIST OF MATERIALS
1	MODEL 1100	08	CAM LEVER (HYGOAL)
1	95230-01	07	BARREL NUT
1	95228-01	06	CURVED WASHER
1	95254-01	05	CAP
1	95224-01	04	CAP
1	95242-01	03	TUBE ASSEMBLY
1	95212-01	02	THREADED ROD ASSEMBLY
	95240-01	01	FRICTION LOCK ASSEMBLY

APPROVALS		DATE
DRAWN:	JEFF CLARKE	31 DEC 2014
CHECKED:	JASON REKVE	31 DEC 2014

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.
TOLERANCES ON:

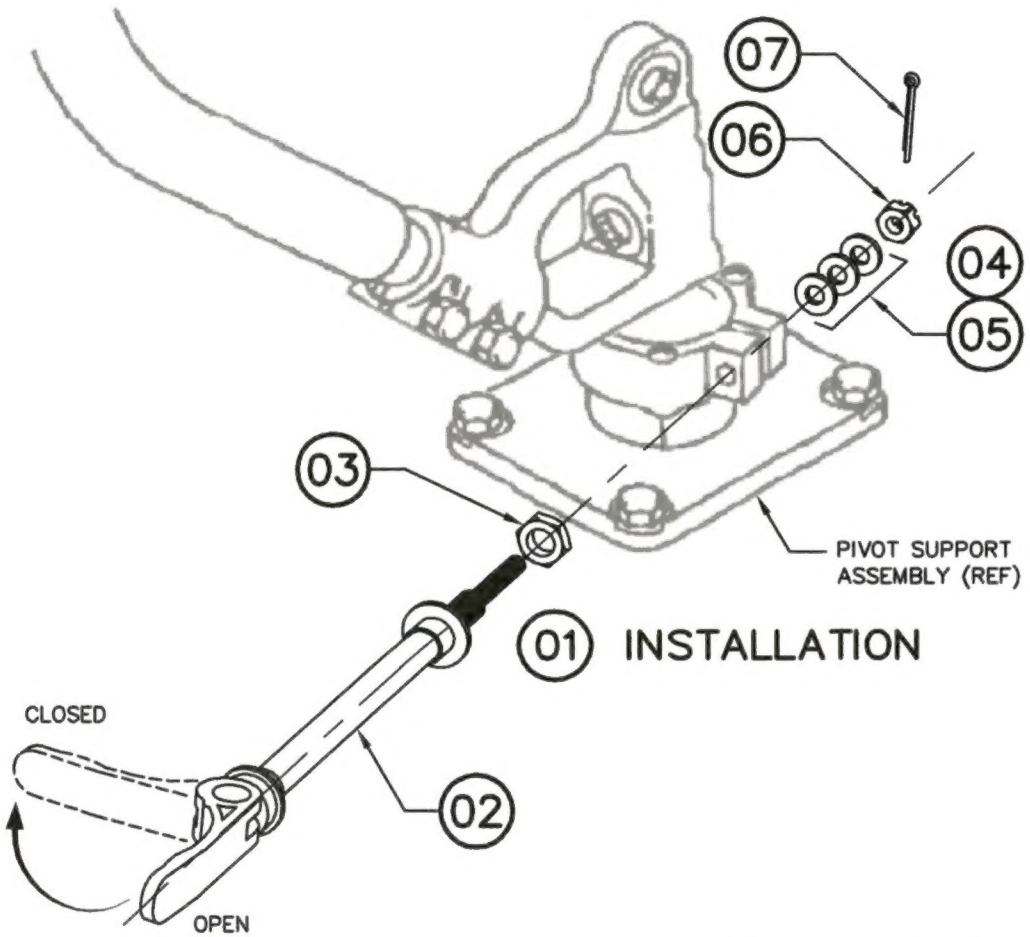
DECIMALS		ANGLES
X.XXX	±0.010	±1/2°
X.XX	±0.03	
X.X	±0.1	

AERO DESIGN LTD.
9868A MALASPINA ROAD
POWELL RIVER, BC, CANADA, V8A 0G3
TEL: 604.483.2376 www.aerodesign.ca

BELL 206A, 206B – S/N 254 THRU 1657
CYCLIC FRICTION REPLACEMENT
FRICTION ASSEMBLY

SCALE 1 : 1	DWG. SIZE	DWG. NO.	REV.
SHEET 1 OF 1	A4	95240	0

REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE – CREATED FROM 95201, REV. 0		



NOTES

1. REMOVE THE EXISTING CYCLIC FRICTION ASSEMBLY AS FOLLOWS:
   A. REMOVE PILOT SEAT AND SEAT PANEL. REFER TO MAINTENANCE MANUAL CHAPTER 25.
   B. REMOVE COTTER PIN, NUT AND WASHERS AT BOTTOM OF CYCLIC FRICTION KNOB AND SHAFT ASSEMBLY.
   C. UNTHREAD KNOB AND SHAFT ASSEMBLY FROM PIVOT SUPPORT ASSEMBLY, AND SLIDE OUT OF CYCLIC STICK BOOT.
2. INSTALL NEW CYCLIC FRICTION ASSEMBLY (02) AS FOLLOWS:
   A. THREAD CHECK NUT (03) ONTO FRICTION ASSEMBLY (02).
   B. SLIDE CYCLIC FRICTION ASSEMBLY (02) THROUGH CYCLIC BOOT, THREAD FRICTION ASSEMBLY INTO PIVOT SUPPORT ASSEMBLY, 0.4" (10 mm) MIN.
   C. TORQUE CHECK NUT TO 60–85 IN–LBS (6.8–9.6 N–m).
   D. SLIDE WASHERS (04/05) (AS REQUIRED, SEE F.) ONTO THREADED END OF CYCLIC FRICTION.
   E. THREAD CASTLE NUT (06) ONTO THREADED END OF CYCLIC FRICTION.
   F. WITH FLIGHT CONTROLS DISCONNECTED OR HYDRAULIC POWER CART CONNECTED, SET FRICTION LEVER IN OPEN POSITION (STRAIGHT OUT), ADJUST MINIMUM FRICTION BY TIGHTENING NUT (06) FINGER TIGHT UNTIL A SPRING SCALE, APPLIED AT THE CENTER OF THE GRIP, INDICATES A BREAKAWAY FORCE OF 1.0 ± 0.5 LBS (4.4 ± 2.2 N). A MAXIMUM OF 8 8 WASHERS (04/05) MAY BE USED TO POSITION NUT IN LINE WITH COTTER PIN HOLE IN ROD.
   G. SAFETY THE CASTLE NUT (06) WITH COTTER PIN (07) IN ACCORDANCE WITH AC43.13–1B, SECTION 7–127.
   H. APPLY BEAD OF F–900 TORQUE SEAL (OR EQUIVALENT MOVEMENT INDICATION LACQUER) TO CHECK NUT / PIVOT SUPPORT JOINT.
   I. INSTALL PILOT SEAT AND SEAT PANEL. REFER TO MAINTENANCE MANUAL CHAPTER 25.
   J. PILOT MAY INCREASE FRICTION BY FOLDING LEVER TO CLOSED POSITION.
3. ELIGIBILITY: 206A, 206B – S/N 254 THRU 1657

QTY	PART NO.	ITEM	DESCRIPTION
	LIST OF MATERIALS		
A/R	F–900	08	TORQUE SEAL (OR EQUIVALENT)
1	MS24665–153	07	COTTER PIN
1	AN310–3	06	CASTLE NUT
A/R	NAS1149F0332P	05	WASHER (LIGHT)
A/R	NAS1149F0363P	04	WASHER
1	AN316–5R	03	CHECK NUT
1	95240–01	02	CYCLIC FRICTION ASSEMBLY
\	95202–01	01	CYCLIC FRICTION INSTALLATION

APPROVALS		DATE
DRAWN:	JEFF CLARKE	31 DEC 2014
CHECKED:	JASON REKVE	31 DEC 2014

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.
TOLERANCES ON:

DECIMALS		ANGLES
X.XXX	±0.010	±1/2°
X.XX	±0.03	
X.X	±0.1	

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BELL 206A, 206B – S/N 254 THRU 1657 CYCLIC FRICTION REPLACMENT INSTALLATION

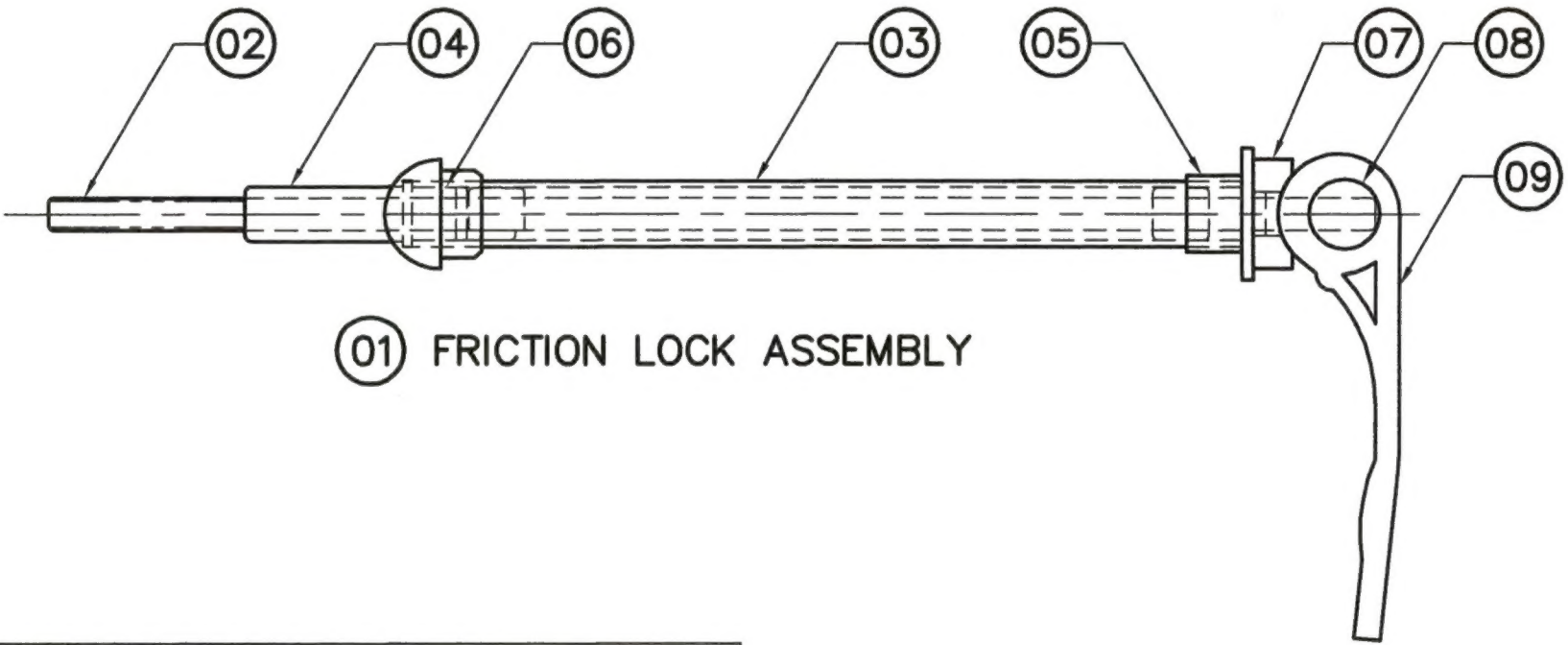
NOT TO SCALE	DWG. SIZE	DWG. NO.	REV.	
SHEET 1 OF 1	A4	95202	0	

REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE	*	*

NOTES

1. PRESS RETAINER BUSHING (05) INTO TUBE (03), INSERT THREADED ROD ASSEMBLY (02) INTO TUBE, PRESS CAP (04) ONTO TUBE, THEN PRESS TUBE ASSEMBLY (03, 04, 05) INTO CRESCENT BUSHING (06).

2. SLIDE CURVED WASHER (07) OVER THREADED ROD, INSERT BARREL NUT (08) INTO CAM LEVER (09), THEN THREAD CAM LEVER ONTO THREADED ROD. DO NOT TIGHTEN.



(01) FRICTION LOCK ASSEMBLY

QTY	PART NO.	ITEM	DESCRIPTION
01			LIST OF MATERIALS
1	MODEL 1100	09	CAM LEVER (HYGOAL)
1	95230-01	08	BARREL NUT
1	95228-01	07	CURVED WASHER
1	95226-01	06	CRESCENT BUSHING
1	95224-01	05	CAP
1	95222-01	04	RETAINER BUSHING
1	95220-01	03	TUBE
1	95212-01	02	THREADED ROD ASSEMBLY
	95210-01	01	FRICTION LOCK TUBE ASSEMBLY

APPROVALS	DATE
DRAWN: JEFF CLARKE	18 OCT 2012
CHECKED: E. BURGOIN	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.
TOLERANCES ON:

DECIMALS	ANGLES
X.XXX ±0.010	±1/2°
X.XX ±0.03	
X.X ±0.1	

AERO DESIGN LTD.
CONSULTING ENGINEERS, TRANSPORT CANADA APPROVALS, DAR 290M
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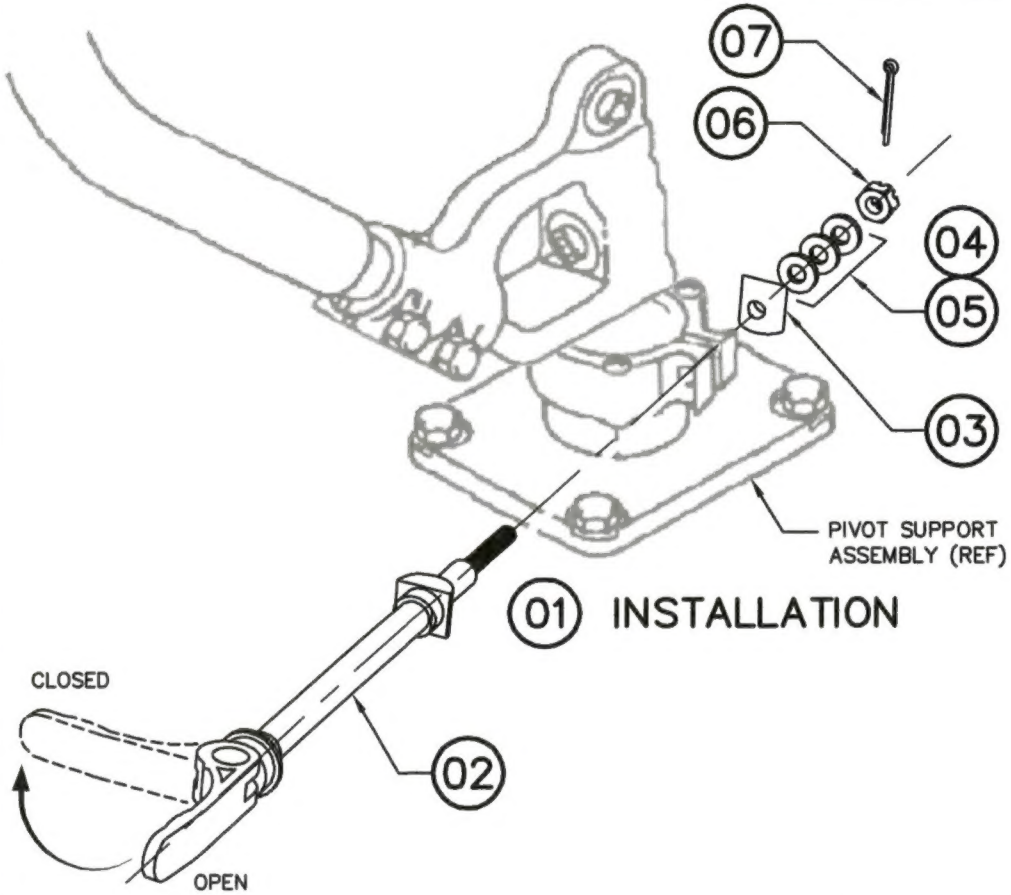
BELL 206B, 206L SERIES, 407
CYCLIC FRICTION REPLACEMENT
FRICTION LOCK ASSEMBLY

SCALE	DWG. SIZE	DWG. NO.	REV.
1 : 1	A4	95210	0
SHEET 1 OF 1			

REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE		
1	TITLE BLOCK UPDATED; P/N'S REMOVED FROM NOTE 2.; NOTE 2.E.; NOTE 3	BJC	31/12/2014



NOTES

1. REMOVE THE EXISTING CYCLIC FRICTION ASSEMBLY AS FOLLOWS:
   - A. REMOVE PILOT SEAT AND SEAT PANEL. REFER TO MAINTENANCE MANUAL CHAPTER 25.
   - B. REMOVE COTTER PIN, NUT AND WASHERS AT BOTTOM OF CYCLIC FRICTION KNOB AND SHAFT ASSEMBLY.
   - C. UNTHREAD BARREL NUTS FROM KNOB AND SHAFT ASSEMBLY.
   - D. REMOVE KNOB AND SHAFT ASSEMBLY FROM PIVOT SUPPORT ASSEMBLY, AND SLIDE OUT OF CYCLIC STICK BOOT.
2. INSTALL NEW CYCLIC FRICTION ASSEMBLY (02) AS FOLLOWS:
   - A. SLIDE CYCLIC FRICTION ASSEMBLY (02) THROUGH CYCLIC BOOT, SEAT CURVED END INTO PIVOT SUPPORT ASSEMBLY.
   - B. SLIDE CURVED WASHER (03) ONTO THREADED END OF CYCLIC FRICTION.
   - C. SLIDE WASHERS (04/05) (AS REQUIRED, SEE E.) ONTO THREADED END OF CYCLIC FRICTION.
   - D. THREAD CASTLE NUT (06) ONTO THREADED END OF CYCLIC FRICTION.
   - E. WITH FLIGHT CONTROLS DISCONNECTED OR HYDRAULIC POWER CART CONNECTED, SET FRICTION LEVER IN OPEN POSITION (STRAIGHT OUT), ADJUST MINIMUM FRICTION BY TIGHTENING NUT (06) FINGER TIGHT UNTIL A SPRING SCALE, APPLIED AT THE CENTER OF THE GRIP, INDICATES A BREAKAWAY FORCE OF 1.0 ± 0.5 LBS (4.4 ± 2.2 N). A MAXIMUM OF 8 8 WASHERS (04/05) MAY BE USED TO POSITION NUT IN LINE WITH COTTER PIN HOLE IN ROD.
   - F. SAFETY THE NUT (06) WITH COTTER PIN (07) IN ACCORDANCE WITH AC43.13-1B, SECTION 7-127.
   - G. INSTALL PILOT SEAT AND SEAT PANEL. REFER TO MAINTENANCE MANUAL CHAPTER 25.
   - H. PILOT MAY INCREASE FRICTION BY FOLDING LEVER TO CLOSED POSITION.
3. ELIGIBILITY: 206B – S/N 1658 AND SUBSEQUENT
   206L, L-1, L-3, L-4 – ALL
   407 – ALL

QTY	PART NO.	ITEM	DESCRIPTION
1	MS24665-153	07	COTTER PIN
1	AN310-3	06	CASTLE NUT
A/R	NAS1149F0332P	05	WASHER (LIGHT)
A/R	NAS1149F0363P	04	WASHER
1	95238-01	03	CURVED WASHER
1	95210-01	02	CYCLIC FRICTION ASSEMBLY
	95201-01	01	CYCLIC FRICTION INSTALLATION

LIST OF MATERIALS

APPROVALS		DATE
DRAWN:	JEFF CLARKE	25 OCT 2012
CHECKED:	E. BURGOIN	01 NOV 2012

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.
TOLERANCES ON:

DECIMALS		ANGLES
X.XXX	±0.010	±1/2°
X.XX	±0.03	
X.X	±0.1	

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BELL 206B, 206L SERIES, 407 CYCLIC FRICTION REPLACMENT INSTALLATION

NOT TO SCALE	DWG. SIZE	DWG. NO.	REV.
SHEET 1 OF 1	A4	95201	1

Aero Design

Parts Distribution Sheet

WO# 2015-34

From PO or WO #	Quantity	Description	Part Number	For WO #
N/A	N/A	Complete Assy	95210-01	
2014-50	15	Threaded Rod	95212-01	
2012-42	15	Tube	95220-01	
2014-69	10	Retainer Bushing	95222-01	
2014-69	5	Retainer Bushing	95252-01	
2014-69	10	Cap	95224-01	
2014-69	5	Cap	95254-01	
13052	15	Cam Lever	1100	
2012-42	10	Crescent Bushing	95226-01	
2012-42	15	Curved Washer	95228-01	
2012-42	15	Barrel Nut	95230-01	
2014-64	15	Curved Washer	95238-01	